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FROM THE AMERICAN PEOPLE

**AFGHANISTAN**

# ENGINEERING SUPPORT PROGRAM

Contract No. EDH-I-00-08-00027-00

Task Order No. 1

First Quarter Report 2014



March 24, 2014

This publication has been produced for review by the United States Agency for International Development. It was prepared by Tetra Tech, Inc.

**This report was prepared for the United States Agency for International Development, Contract No. EDH-I-00-08-00027-00, Task Order 01, Afghanistan Engineering Support Program.**

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March 24, 2014

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Office of Economic Growth and Infrastructure (OEGI)  
U.S. Agency for International Development  
Great Massoud Road  
Kabul, Afghanistan

**Re:** Contract No. EDH-I-00-08-00027-00  
Task Order No. 1  
Afghanistan Engineer Support Program (AESP)  
First Quarter Report FY2014

Dear [REDACTED] and [REDACTED]:

It is with great pleasure that Tetra Tech submits this First Quarter Report for fiscal year 2014, as provided in section C.5, "Deliverables," paragraph D of the above referenced Task Order. This report presents the activities for the period of October 1, 2013 through December 31, 2013.

We look forward to supporting the USAID OEGI mission during 2014 and to strengthen our partnership while building a brighter future for Afghanistan.

Please contact me at your convenience should you have any questions or comments regarding this report.

Respectfully,  
Tetra Tech, Inc.

[REDACTED]

[REDACTED]

Chief of Party (AESP)

# AFGHANISTAN ENGINEERING SUPPORT PROGRAM

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## **DISCLAIMER**

The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

## EXECUTIVE SUMMARY

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This Year Five, Quarter 1 Report summarizes the work completed, underway and pending for the Afghanistan Engineering Support Program (AESP), Contract EDH-I-00-08-00027-00, Task Order No. 1, from October 1, 2013 through December 31, 2013.

Tetra Tech (Tt) AESP provides planning, design, engineering and technical oversight/quality assurance services while contributing to local national capacity building and mentoring in support of, and as directed by, the United States Agency for International Development (USAID) Afghanistan Office of Economic Growth and Infrastructure (OEGI).

During this reporting period, Tt AESP performed activities that complement and reinforce the initiatives and engineering expertise of USAID OEGI staff in energy, transportation, vertical structures, and water and sanitation sectors. Tt AESP consists of a Kabul-based core of expatriate engineering and support professionals leading a competent staff of local Afghan engineers and support professionals, with home office, or “reach back”, support as needed from a highly-qualified US-based staff.

Tt AESP submitted seven major deliverables in Year Five, Quarter 1 ranging from a preliminary bridge design for Bridge No. 9 on the Gardez-Khost Road (WO-LT-0077) to a comprehensive final report for the Northeast Power System (NEPS) Protective Relay Coordination Studies (WO-LT-0059). The Gardez-Khost Road Bridge No. 9 project has since moved into final design and preparation of construction documents, and the Protective Relay Studies are continuing with the preparation of a construction RFP to implement the relay settings work. In addition, the USAID AESP Audit exit interview was completed on December 18, 2013 after approximately four months of intense collaboration with the USAID auditors.

Highlights of the quarter within each sector and technical support and oversight services noted below exemplifies AESP’s diverse support of the USAID OEGI mission in Afghanistan.

### *Energy Sector*

The Afghanistan NEPS Protective Relay and Coordination studies (WO-LT-0059) involved working closely with the Da Afghanistan Breshna Sherkot (DABS) relay department to conduct extensive field inspections and collect relay settings from the medium voltage electric power distribution system in Kabul. The final NEPS Protective Relay and Coordination report was submitted this quarter, and it includes modeling all 71 medium voltage feeders that comprise the Kabul Distribution System. Work continues on Task 14 of this same work order to implement protective relay settings for all substation relays in Kabul. USAID has also requested through amendments that Tt AESP upgrade the medium voltage distribution feeders through a comprehensive capacity building exercise within DABS and to develop NEPS medium voltage distribution guidelines including drawings and specification for procurement of better quality equipment and materials than currently found in the Kabul medium voltage distribution system.

With work order WO-LT-0063, USAID has tasked Tt AESP to establish reliable grid power for the Salang Pass Tunnel and its ventilation and lighting systems through the production of a full detailed design of the 220 kV/20 kV Salang Tunnel Substation. This effort also includes the design of a new 20 kV medium voltage distribution system run to the tunnel and nearby maintenance and administrative facilities. Tt AESP will also assist by providing bidding support for long lead pre-purchase of equipment and bidding support for the construction of the substation and medium voltage distribution system. By employing a fast track design/bid/build delivery, Tt AESP is streamlining the design and construction process and reducing project delivery time by approximately one year.

During this quarter, Tt AESP commenced work on WO-LT-0072, Power System Analysis of Proposed NEPS Improvements by coordinating with key donor agencies and others contributing to improving the energy sector within Afghanistan. Since then, work has progressed through the publication of three reports that detail a comprehensive study plan for a PSS/E modeling effort that

will evaluate power flows through the NEPS grid, including import power from countries to the north of Afghanistan, and power flows from the CASA-1000 project in Central Asia through Afghanistan and into Pakistan.

### *Technical Support and Oversight*

Acting in the capacity of technical advisors, Tt AESP provided needed support to DABS to improve eleven of the 12 conditions precedent (CP) required to initiate the disbursement of on budget funds from USAID (WO-A-0091 and WO-A-0092). Tt AESP worked closely with the DABS Senior Management Group (SMG) and the USAID Office of Financial Management to fulfill this work order request. The DABS SMG and the USAID Afghanistan Mission Director have approved all 12 CPs. This valuable consultative support provided by Tt AESP helped move the PTEC program forward.

Under the Afghan Woman Internship Program (WO-LT-0042), Tt AESP completed its second successful year of the program in 2013. In Quarter 1 of Year Five, a third program year began. Two workshops were held at the villa for the interns lead by USAID engineers that covered as-built drawing review support and civil construction design. The interns have begun to assist the AESP team with AutoCAD work, calculations for designs, and as-built drawing review support on active work orders. Lastly, the interns were coached this quarter on how to write their resume and search for employment after their internship with Tt AESP concludes.

In addition to the training and mentorship provided to the Tt AESP interns, under WO-LT-0066, Training and Support, Tt AESP has scheduled on USAID's behalf three, one-week project management training sessions recognized by the Project Management Institute (PMI). Thirty participants including local nationals and expatriates participated in the sessions. This training raised awareness of project management issues especially for the local nationals. Participants will sit for the Project Management Professional exam in the coming months.

Tt AESP provided USAID with media assistance (WO-LT-0065) in this quarter by capturing interviews on video in Kandahar to support a human interest story. The ability to travel and be on the ground as a representative for USAID enables Tt AESP to capture moments that USAID themselves would not be able to capture due to their limitations on travel. The video captured was taken to demonstrate progress in the energy sector and the benefits of the program to women. In addition to media assistance, USAID requested simplified exhibits to be prepared for the Salang Tunnel Rehabilitation Feasibility Study (WO-A-0094). Tt AESP assisted in providing graphics for this presentation which included USAID, Ministry of Public Works, and the Afghanistan President's Office as participants.

### *Transportation*

Tt AESP provided guidance to Mashriq Engineering Construction Company (MECC) project scheduling efforts on the Gardez-Khost Road construction and teamed with USAID OEGI to mentor MECC staff using Primavera P6 scheduling software. Tt AESP has reviewed and finalized 144, out of 160, as-built drawings and is monitoring construction progress.

Upon request from USAID, Tt AESP provided a concept design for the Gardez-Khost Road Bridge No. 9 (WO-LT-0077) delivered in time for the award of Phase 4 of the road construction. After the concept design, Tt AESP received notice to proceed on October 22, 2013 to complete the preliminary design and bill of quantities (BOQ) for the bridge. The BOQ was delivered on October 28, 2013 and the preliminary design on November 11, 2013. Detailed engineering and preparation of construction documents by AESP for Bridge No. 9 are now in progress at the request of USAID.

### *Vertical Structures*

Coupled with its engineering capacity, Tt AESP is using its freedom of mobility to assist USAID with remote field observations for the Regional Command North/Regional Command East Project Evaluations (WO-LT-0009, AMD 5 and 6). During this quarter 29 site visits to separate RAMP UP projects were completed under AMD 5 in Regional Command North and 25 site visits were

completed under AMD 6 in Regional Command East. Sites included remote locations in Northern and Eastern Afghanistan.

In addition to work order related activities, Tt AESP provided capacity building opportunities for AESP local national staff. The expatriate deputy chief of party (DCOP) demobilized from the project during the last quarter of 2013. This vacant position was filled by a local national who is fully engaged and is managing the day to day operations starting this quarter. In addition, the local national DCOP attended five days of training in Dubai to learn managerial skills for new managers and supervisors. The local national DCOP is responsible for resource planning, work flow, review of all scopes of work and rough order of magnitude cost estimates, work plans, progress reports, and all major deliverables.

As described above, Tt AESP has provided USAID OEGI with diverse engineering expertise and dynamic support throughout the first quarter of Year Five. The versatility of the Tt AESP program is evident in the variety of deliverables submitted to USAID OEGI and the program's support for USAID goals and objectives in Afghanistan. Tt AESP will remain flexible and mobile in FY 2014 to support work orders issued by USAID OEGI and continue the program's support for capacity building, education and gender equality in Afghanistan.

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Appendix A Work Order Summary Report

## 1.0 WORK ORDERS

The Tt AESP contract provides engineering and technical support so that the OEGI can continue to provide the Mission with needed engineering expertise in transportation, vertical structures, energy and water and sanitation sectors. The Tt AESP contract provides OEGI access to a team of full-time and short-term engineers based outside the USAID OEGI compound in Kabul and within the contractor's offices.

Tt AESP responsible for identifying, planning, designing and providing technical support and oversight of USAID OEGI infrastructure projects and related engineering activities, in accordance with the basic USAID OEGI Architect and Engineer (A&E) IQC contract statement of work creates a work order to track individual project. Work orders fall into one of two categories, administrative or long-term. Administrative work orders are defined as tasks requiring a total level of effort less than or equal to 18 business days (144 work hours). Long-term work orders defined as activities requiring a total LOE exceeding 18 business days.

Tt AESP supports USAID OEGI's mission throughout Afghanistan using both types of work orders. Figure 1, identifies the project locations that Tt AESP has done work in for USAID OEGI. For tracking purposes, work orders are broken into one of the following sectors: Energy, Vertical Structures, Transportation, Water and Sanitation as stated in the Tt AESP contract if the work requested falls outside the sectors above, it falls under technical services. Out of the five identified categories, the majority of Tt AESP work this quarter supported the energy sector and provided technical services across sectors.

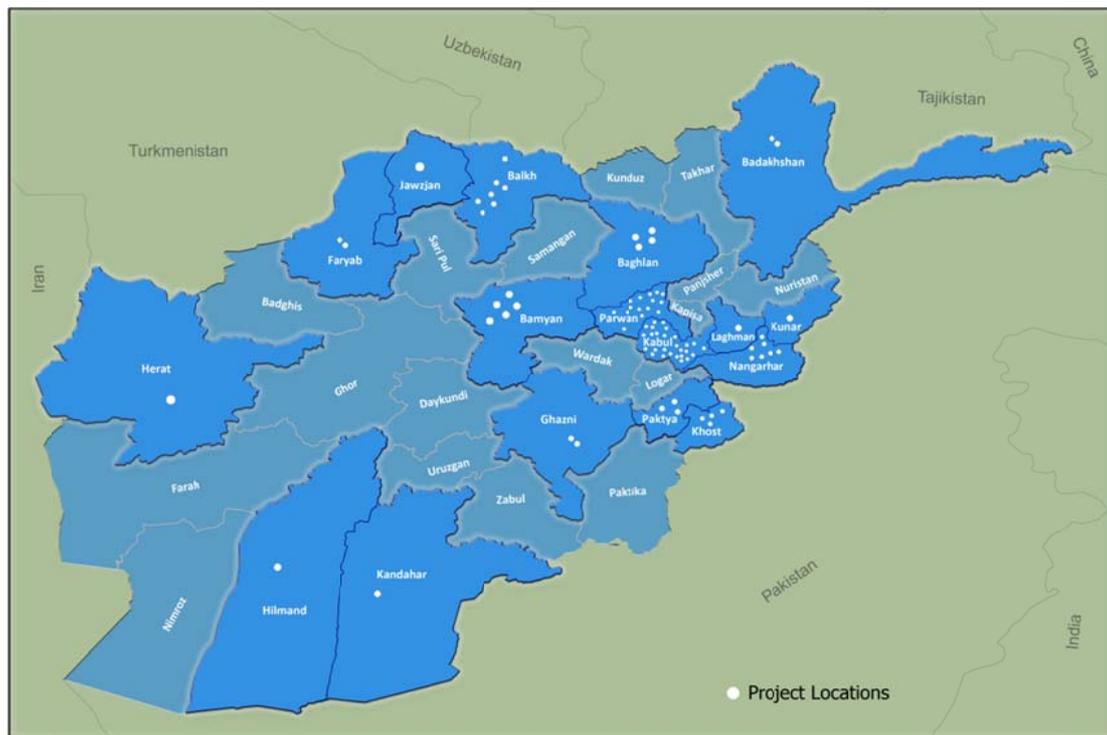


Figure 1. 2009-2014 Tt AESP Project Locations

## 1.1 SECTOR ACTIVITIES

The following sections describe the activities performed in each sector during the first quarter of Year Five under this Task Order. Appendix A provides a status update for the administrative and long-term work orders that were active during this quarter.

## 1.1.1 Energy

Energy sector work continued on a number of long-term work orders to meet the objectives outlined in the report on “Progress Toward Security and Stability in Afghanistan” (April 2010). The work products/studies will be the cornerstone to establish a reliable electrical transmission and generation system in Afghanistan. Existing long-term work orders are described as follows.

### ***1.1.1.1 WO-LT-0048 – Transmission Line Engineering Study***

In March of 2012, USAID OEGI requested support for a proposed 220kV transmission line and substations from Arghandi to Ghazni. Subsequent amendments have been proposed and approved to support DABS’ with bid package development to expand the connectivity of the NEPS program initiative generally known as the Power Transmission Expansion and Connectivity (PTEC) program. This overarching work order provided a technical scope of work (SOW) with supporting engineering documents (drawings and specifications) that were incorporated into a request for proposal (RFP) to procure transmission line design and construction services. This work order remained open through this quarter.

### ***1.1.1.2 WO-LT-0048\_AMD 3 - Technical Section and Bid Support***

This amendment tasked Tt AESP to deliver the technical section (Volume 2) for the proposed 220kV transmission line from Arghandi to Ghazni, including the substations at Sayedabad, Ghazni City and Qarabagh. Volume 1 and 3 provided by DABS and combined with Volume 2 produced by Tt AESP completed a RFP package to the bidders. The Tt AESP Energy team assisted DABS in responding to bidder’s technical questions concerning the RFP. Tt AESP completed an evaluation and tabulation for all submitted bids to support USAID OEGI in the selection of awardees. This amendment remained during this quarter.

### ***1.1.1.3 WO-LT-0048\_AMD 4 - Technical Section and Bid Support for 5 Substations***

This amendment tasked Tt AESP to create and deliver a technical section (Volume 2) for a 220kV transmission line and substations from Qarabagh to Kandahar East. This was subsequently changed to just the development of the technical section for the proposed substation(s) from Ghazni City to Kandahar East. The five substations included in this RFP are Qarabagh, Gelan (Moqor), Shah Joy, Qalat and Kandahar East. The work to be completed is similar to the support provided under Amendment 3. Notice to proceed was issued September 2012. Tt AESP received notice to revise the SOW based on lessons learned from Amendment 3. Tt AESP submitted a revision during the quarter. This work order remained open with continued work on revisions to the SOW.

### ***1.1.1.4 WOLT0048\_AMD 5 - Technical Section and Bid Support for Transmission Line***

USAID OEGI requested a SOW and ROM to create and deliver a technical section (Volume 2) for the proposed transmission lines from Qarabagh to Kandahar East. SOW and ROM development continued through this quarter.

### ***1.1.1.5 WO-LT-0059 - NEPS Protective Relay Coordination Studies***

USAID OEGI requested that Tt AESP perform a relay coordination evaluation of the Afghanistan NEPS 220kV and 110kV electrical grid, as well as, for the 20kV, 15kV and 10kV medium voltage (MV) systems. Scheduling and data gathering began during the first quarter of Year Four, after USAID OEGI issued the notice to proceed, work continued through this quarter.

The Tt AESP team, comprised of LN and expatriate technical staff in Kabul coordinated with DABS to access the specified relays for data to use in the modeling. The data collected in the field was transmitted to reachback (RB) for review and data gap identification occurred during the quarter. Additional field investigation and data collection provided data gap resolution. RB incorporated final data into the transmission system model. The data gathered for primary substation equipment, high

voltage transmission line, protective relay settings database files and 71 priority and 38 non-priority feeders for the metro-Kabul primary substation. Reports generated monthly, reported site visit findings, work order progress and issues.

The final report submitted to USAID OEGI on November 7, 2013, provided more than 2,000 recommended relay settings. When implemented, the selectivity of the NEPS high voltage and medium voltage systems will improve. The final report additionally included recommendations for replacement of electromechanical or solid state type relays.

During the quarter, work started and continued for the technical specifications to incorporate into an RFP with DABS. This amendment remained open during this quarter.

#### ***1.1.1.6 WO-LT-0059\_AMD 1 NEPS Field Installation Guide Development***

This amendment came online as a result of the investigation and analyses completed under WO-LT-0059 Relay Coordination Study. Deficiencies identified in the MV system resulting from a lack of materials including MV distribution fuses and fuse links. The scope encompasses technical services, material specifications, procurement support, installation training and guidance and maintenance of the specified materials.

Work performed during the quarter included the creation of field installation guides for 10 MV feeders. Each field installation guide includes a general arrangement/single line drawing identifying the location of the protective equipment to install. Illustrating the general arrangement of fuses, cutouts, and supports for installation on existing Kabul area MV distribution poles. The amendment remained open throughout this quarter.

#### ***1.1.1.7 WO-LT-0059\_AMD 2 NEPS Field Installation Guide Development***

USAID OEGI requested a SOW and ROM to create field installation guides for the remaining 61 MV feeders identified under WO-LT-0059 Relay Coordination Study. SOW and ROM created and submitted to USAID OEGI awaits approval.

#### ***1.1.1.8 WO-LT-0059\_AMD 3 Kabul Area Substation Assessments***

USAID OEGI requested a SOW and ROM to provide further assessments of Kabul North, Northwest, and MW Radio Substations to identify other deficiencies beyond protective relay coordination scope of WO-LT-0059 Task 14. The assessments are to include a review of components that are old, obsolete, or in need of repair on the HV and MV systems, including circuit breakers, switchgear and conductors and provide recommendations, and technical documents to implement the upgrades or revisions. Work began on a SOW and ROM during this quarter.

#### ***1.1.1.9 WO-LT-0063 Salang Tunnel Substation***

USAID OEGI requested Tt AESP to recommend a location, design and create technical documents for a new 220/20kV substation located south of the Salang Tunnel in Baghlan Province . The technical documents detailed for an Engineering, Procurement and Construction (EPC) firm to continue the design and installation of the work. DABS will then solicit bids for the work and select an EPC contractor.

Majority of the work done during the reporting period focused on the preparation of a pre-purchase equipment and substation orientation. Tt AESP coordinated meetings and communications with the shareholders on the project. Challenges with site layout, short construction season, long lead items, and land ownership were examined carefully.

It was suggested by DABS through USAID OEGI to design the substation with double tap, double bus and double transformer. Primary general arrangement and superimposed drawings were submitted to USAID OEGI. Contract preparation and bidding assistance services will be performed once site

layout and redesign is approved by USAID OEGI. This work order remained open throughout this quarter.

#### ***1.1.1.10 WO-LT-0063\_AMD 3 Substation Technical Sections***

Tt AESP was assigned to provide technical sections for others to use as part of an EPC package to build a “double circuit with line protection” substation near the southern terminus of the Salang Tunnel in Afghanistan. This SOW superseded the previous amendments so that conflicting requests as to the proposed design was eliminated.

Work began on the technical documents once site and substation orientation approved by shareholders. Technical sections will contain sufficient detail for an EPC firm to continue the design and installation of the work. As stated above, our understanding that USAID OEGI will deliver the technical documents to DABS. DABS will then solicit bids for the work and select an EPC contractor. This amendment remained open during this quarter.

***1.1.1.11 WO-LT-0063\_AMD 4 Substation Pre-Purchase Equipment*** To meet an accelerated Salang Tunnel substation construction schedule, Tt AESP was asked to develop performance specifications for long lead high voltage (HV) substation equipment, MV equipment and relay/control equipment. Technical services supporting the development of specifications for procurement of substation equipment including transformers, breakers, instrumentation, and relay and control panels was written into the scope. In addition, Tt AESP will provide technical support to resolve bidder questions, specification clarifications as vendor proposals are developed, and technical review of supplier proposals to verify conformance of the proposed items to the prepared performance specifications. This work order remained open through this quarter.

#### ***1.1.1.12 WO-LT-0063\_AMD 5 Topographic Land Survey and Geotechnical Investigation***

Survey and geotechnical information necessary for the development of detailed designs for the proposed new substation was outlined for two proposals. A survey and a geotechnical RFP were advertised, bids reviewed and awarded during the quarter. Detailed reports by subcontractors were underway during the latter part of the quarter.

#### ***1.1.1.13 WO-LT-0063\_AMD 6 Detailed Design***

Tt AESP held kick off meeting during the quarter with the entire design team including expatriate, local national staff and reachback staff to develop a detail design package for the proposed substation at Salang Tunnel. Preliminary and detail design for site civil, 220kV transmission line taps, 220-20kV substation, control building with living quarters, and bidding assistance will be completed as part of this amendment. This amendment was approved during this quarter.

#### ***1.1.1.14 WO-LT-0064 Sheikh Misri to Rodat Substation Technical Sections***

Tt ASEP continued work preparing technical sections for the Sheikh to Rodat District substation. Field investigations and data gathering and reviewing the new primary Substation (SS) site in Ghawchak, near Jalalabad, adjacent to the recently constructed Ghawchak-1 SS was conducted this quarter.

A new primary Substation in Rodat District, Nangarhar Province, Afghanistan to serve anticipated customer loads from the Hisarshahi Industrial Park (HIP), Ghazi Amanullah Khan City (GAKC). Included is a high voltage (HV) transmission line (T/L) from Ghawchak-2 SS to the proposed (HIP/GAKC) SS in Rodat District. A HV connectivity from the existing Afghan HV national grid to the proposed Ghawchak-2 SS will be reviewed.



### **Visit**

A Supervisory Control and Data Acquisition (SCADA) system extensions to the three new SSs and DABS / Northeast Power System (NEPS) / National Load Control Center (NLCC) Independent System Operator (ISO) will control all proposed SSs.

Tt AESP met with the Afghan Ministry of Energy and Water (MEW) and DABS to identify suitable substation sites for Ghawchak-2 SS near Jalalabad to serve HIP and GAKC in Rodat District. Tt AESP met with DABS to discuss GFE, standardization of equipment, technical specifications, preliminary design drawings and Bill of Quantity (BoQs). ADB and Snowy Mountain Engineering Corp. (SMEC) were queried for pertinent information about work that their organizations may be conducting in the areas of work related to this work order.

A site visit was conducted, Tt AESP engineer traversed the general suggested right of way for the T/L routing and visited the proposed substation sites. Tt AESP evaluated sites and reported back to USAID OEGI recommended site location for the substation. This work order will remain open into 2014.

#### ***1.1.1.15 WO-LT-0070 Tarakhil Power Plant***

Tt AESP continued to prepare the design drawings, specifications, and engineering estimate of cost, for the replacement of the fire water system at Tarakhil Power Plant during the quarter. To complete final design drawings, several site visits were done during the quarter to collect and verify additional data, particularly related to the electrical heat tracing and controls and the arrangement of the temporary fire water system. A final design review meeting is scheduled for early January 2014, in which all final design civil and electrical drawings, specifications, engineering estimate of costs, and preliminary procurement documents will be presented to USAID and DABS for approval. Upon approval, Tt will immediately assist DABS with the procurement of all goods sourced from outside Afghanistan, followed by the procurement of a contractor and local goods with an intended construction start date in spring 2014. Work order to remain open into 2014.

#### ***1.1.1.16 WO-LT-0070\_AMD 1 Fire Fighting Capacity Study***

USAID OEGI requested the Tt AESP renew testing and evaluation of the fire suppression systems and renew firefighter training for staff at the Tarakhil Power Plant. SOW and ROM development continued through the quarter for such study. At the time of this report, the work order status is pending.

### ***1.1.1.17 WO-LT-0072 NEPS Improvements Power System Analysis***

USAID OEGI requested Tt AESP to draft a scope of work to identify, analyze, and document the impacts of ongoing, planned, and potential projects in the NEPS over time through 2032. Included is support to achieve the goals of the Draft Terms of Reference (ToR) dated June 24, 2013 regarding evaluation of CASA-1000 options.

The work will focus heavily on the impacts of potential new import sources and generation, specifically the Turkmenistan-Arghandi 500 kV AC line, Sheberghan 200 MW thermal power plant, and CASA-1000 500 kV HVDC project. The impacts of projects or combinations of projects to be analyzed include technical capacity, reliability, phasing and sequence of projects, cost effectiveness and electrical efficiency, and seasonal effects. Included in the analysis is the expected new load, in-country generation, and power import/export and their impact on current grid operations and future grid development. In addition, the CASA-1000 HVDC project and its interaction with the proposed transmission development in the Power Sector Master Plan will be investigated in the initial phase of the study. At the time of this report, the work order status is pending.

### ***1.1.1.18 WO-LT-0076 Bagram Basin Electrical Load Study and Master Plan***

At the time of this report, the SOW submitted to USAID OEGI to create a technical service report received notice to proceed. Work started on assembling information about the existing and future electrical needs in the study area from the involved stakeholders for the study. The study includes the area north of the City of Kabul in Kabul, Parwan, and Kapisa provinces. This area is anticipated to be, over the next two decades, a fast growing economic corridor. Kabul New City (KNC) is the largest planned development in this area. KNC is planned to be 1.5 times larger than the existing City of Kabul. The towns of Charikar, Jabal-Saraj, Golbarhar, Bagram, and Mahmud-Raki will also be included in the study area. Work will continue on this work order into 2014.

### ***1.1.1.19 WO-LT-0078 NEPS Kabul Area Distribution Master Plan***

USAID-OEGI requested Tt AESP to devise a SOW to deliver a Master Plan road map for expansion of an integrated medium voltage 110 KV High Voltage, and 220 KV High Voltage power distribution system for the Afghanistan Power System Master Plan in Kabul. A study will be conducted focusing on the analysis of source and timing of source and the forecasted increase of power generation for the growing population. A SOW was in the works during the latter part of the quarter.

## **1.1.2 Vertical Structures**

A summary of work performed during the fiscal year by the Vertical Structures group included providing technical support, document reviews, project meeting attendance, and design input on several major vertical structures engineering projects to USAID OEGI/OEGI. The projects are briefly described below.

### ***1.1.2.1 WO-LT-0006\_AMD 5 Construction Administration Services***

The construction work at Sardar Girls Kabuli High School neared completion during this quarter, resulting in Tt AESP support effort of the construction was complete. At the time of this report no further services were requested. The work order was closed out during the quarter.

### ***1.1.2.2 WO-LT-0009 PRT Field Support***

Initially, Tt AESP was tasked to provide technical support to the Provisional Reconstruction Teams (PRTs) assisting in identifying projects and preparing reports from which the PRTs could apply for funding. This work order has evolved to include design support and field observations of completed projects. The work order has been amended with each project request. Projects include disciplines of vertical structures, water and wastewater, water resources, transportation, and energy. This work order is open.

### ***1.1.2.3 WO-LT-0009\_AMD 5 Regional Command North Project Evaluations***

Tt AESP began site visits of the Regional Command (RC) North projects during the first quarter. Project evaluations services conducted through the quarter included a review of specific project documentation (drawings, specifications, etc.), onsite observation of visible completed works, preparation of documentation to verify the completed works including a site observations report, photographs and any other information deemed necessary to make a complete and thorough observation and documentation of the completed works.

In total, Tt AESP engineers visited twenty one (21) projects located in eleven (11) different northern provinces. Citizen centers, vehicle bridges, bus terminals, parking lots, and playgrounds are a sampling of the type of projects evaluated. A complete site visit report is underway for each of the locations visited. Site visit reporting will continue into the second quarter.

### ***1.1.2.4 WO-LT-0009\_AMD 6 Regional Command East Project Evaluations***

Tt AESP began site visits of the Regional Command (RC) East projects during the first quarter. Project evaluations services conducted through the quarter included a review of specific project documentation (drawings, specifications, etc.), onsite observation of visible completed works, preparation of documentation to verify the completed works including a site observations report, photographs and any other information deemed necessary to make a complete and thorough observation and documentation of the completed works.

In total, Tt AESP engineers were scheduled to visit twenty five (25) projects located in fourteen (14) different eastern provinces. Two of the locations were not assessable due to security or weather conditions. Citizen centers, vehicle bridges, bus terminals, parking lots, and playgrounds are a sampling of the type of projects evaluated. A complete site visit report is underway for each of the locations visited. The site visit reporting will continue into the second quarter.

## **1.1.3 Transportation**

A summary of work performed during the first quarter of the final year of AESP by the Transportation group includes providing quality assurance (QA) services, document reviews, and project meeting attendance on several transportation projects to USAID OEGI. The work provided is briefly described in the following section.

### ***1.1.3.1 WO-LT-0067 Gardez Khost Value Engineering***

Tt AESP continued to support USAID OEGI's effort during the first quarter of the new year, through mentoring and capacity building of MECC. Tt AESP's engineers worked with MECC to baseline and implement their construction schedule and develop timely reports. Weekly meetings with USAID-OEGI, MECC, and IRD were attended by Tt AESP engineers to further support the ongoing construction efforts.

Coordination meetings were conducted during the quarter to resolve issues with as-built drawings with USAID-OEGI and MECC. Tt AESP started review of over a 160 as-built drawings during the quarter. Tt AESP review compared the as-built drawings against the approved contract drawings and reported to USAID OEGI any variations between the two plans.

Tt AESP will continue to provide value engineering for the Gardez-Khost Road Section 3 construction. Gardez-Khost Section 3 is scheduled to be completed sometime mid-March 2014. Conversations are under way with USAID to continue these efforts on Section 4, the remaining 27Km. As-built drawing review to continue into the second quarter.

### ***1.1.3.2 WO-LT-0074 Annual Road Operations and Maintenance Cost Budgets***

Tt AESP completed an evaluation operations and maintenance budgets for USAID OEGI on completed road construction within two roadway programs that are, or will become, the property of

the Government of the Islamic Republic of Afghanistan (GIRoA). Tt AESP reviewed and recommended improvements of O&M budgets for the following roads:

- Strategic Provincial Roads –Southeast Afghanistan (SPRSEA) Roads # 2, 4, 5, 6, 7, 8, 10, 11, 14, 15, 18, 20, 27 and 34
- Gardez Khost (GK) Road Sections 1, 2 and 3

Resources utilized as part of the investigation into maintenance costs included design documents from the Strategic Provincial Roads (SPR) Program and Gardez-Khost Road, construction inspection reports, and discussions with the Ministry of Public Works. Also reviewed was the “Master Plan Road Improvement Project, Road Sector Master Plan” prepared by the Asian Development Bank (ADB) and Sheladia Associates Inc. dated April 2006. A final report evaluating and recommending O&M budget estimates for each facility for GIRoA’s planning purposes was submitted to USAID OEGI. This work order was closed during the quarter.

### ***1.1.3.3 WO-LT-0077 Gardez Khost Bridge #9***

Monsoon rains in 2013 washed out an abutment and severely damaged Gardez Khost Road, Bridge #9. The severely damaged and un-repairable bridge is scheduled to be demolish and replaced. USAID OEGI approved a scope of work submitted by Tt AESP to fast track the preparation of a preliminary design and Bill of Quantities for inclusion in the Gardez-to-Khost Road Phase IV construction RFP in November 2014. Tt AESP submitted the preliminary design and construction budget on November 9, 2013, two weeks after USAID OEGI issued Notice to Proceed. Follow on work (Amendment 1) approval received authorized the full detailed design of the Bridge #9 replacement structure. Full detail design and coordination with reachback team continued through the end of the quarter and will continue into the second quarter.

Upon request from USAID, Tt AESP provided a concept design for Gardez-Khost Road Bridge #9 (WO-LT-0077) to be delivered in time for the award of Phase 4 of the road construction. After the concept design, Tt AESP received notice to proceed on October 22, 2013 to complete the preliminary design and bill of quantities (BOQ) for the bridge. The BOQ was delivered on October 28, 2013 and the preliminary design on November 11, 2013. Detailed engineering designs are now in progress at the request of USAID.

## **1.1.4 Technical Support and Oversight**

A summary of work performed during the first quarter categorized as Technical Support and Oversight, demonstrates the versatility of Tt AESP’s qualified expatriates, local national and Reachback support responsiveness to special requests as assigned by USAID OEGI to meet the Mission’s goal. The work provided is described below.

### ***1.1.4.1 WO-LT-0042 Afghan Women Internship Program***

In this final quarter of the 2013 internship program, the four interns focused on supporting active Tt AESP work orders. While all participated on work orders where needed, each was identified to support different operations depending on their field or necessity within a working team at the Tt AESP office. All supported work orders such as WOLT-0009 RC North and RC East, WOLT-0063 Salang Tunnel, WOLT-0067 GK Road, WOLT-0070 Tarakhil Power Plant Water Piping System, and WOLT-0074 O&M Cost Budgets. Tasks included report development, AutoCAD work, calculations for designs, as-built drawing review, spreadsheet development, and specification development.

In addition to these general tasks, two interns were also identified for more specific tasks. One specifically supported work needed for all energy related work orders and other specifically supported AutoCAD drafting. Other tasks included report assembling support, assignments to support the AESP villa (such as developing fire codes and evacuation plans or fuel measurement and reporting), and other miscellaneous tasks as needed.

Workshops and trainings held this quarter included engineering and job searching support. The engineering workshops were given by USAID engineer, [REDACTED]. He held them at the AESP compound, covering project cost estimation and civil construction design. Job search training included resume workshops and review, interview coaching, and interviews with AESP staff. At the conclusion of the job hire training, all were given overall feedback on the events. Two interns were selected for hire to the Tt AESP program.

Also, in anticipation for the 2014 internship program, recruiting for new interns began, with intent to interview and hire new students in January 2014 for the remainder of the AESP program.

#### **1.1.4.2 WO-LT-0065 Media Assistance**

Tt AESP supported the OEGI and the Development Outreach and Communications Office (DOC) with a special project during the quarter. Tt AAESP supported a video project in Kandahar. The work provided during the quarter consisted of traveling to Kandahar, meeting with interviewees and capturing interviews on video. Coordinating with program staff on location spanned two days. Raw footage captured was provided to DOCs for their use. The work order remained open through the remainder of the quarter.

#### **1.1.4.3 WO-LT-0066 Training and Support**

The work order objective was to introduce USAID OEGI staff to the Project Management Body of Knowledge and to prepare thirty USAID-OEGI staff members for Project Management Institute professional (PMI) certification exams. In addition, the goal of the work order is in support of USAID OEGI's efforts in building project management capabilities and leadership skills of their Foreign Services Nationals to sustain the efforts during the "Transformational Decade" (2014-2024) in Afghanistan.

The three training were conducted during October and November providing participants critical knowledge and skills in project management to better manage project costs, schedules and quality. Thirty local national and expatriate staff attended the training provide. Follow on work, provided funding an assisting obtaining PMI memberships and Project Management Professional certification exam for each of the participants. This work order will remain open through early 2014.

### **1.1.5 Administrative Work Orders**

Administrative work orders are short term, less than 144 man hours. See Table 1 for summary of work completed under the administrative work order classification.

**Table 1. Administrative Work Order Summary**

<b>Number</b>	<b>Work Order Title</b>	<b>Summary of Work Completed</b>
WO A-0089	Salang Tunnel Substation Presentation	Tt AESP created a power point presentation for a Ministry of Public Works briefing. The work order was closed during the quarter..
WO-A-0093	Technical Assistance to US Embassy Support PP	Tt AESP assisted US Embassy with needed trip adjustments to their power plant circuit breaker controller. The work order was closed during the quarter.
WO-A-0094	Salang Tunnel Exhibit Support	Tt AESP provided simplified Salang Tunnel exhibits for use by USAID-OEGI for ministry presentation. The work order was closed during the quarter

### ***1.1.5.1 WO-A-0091 and 92 Technical Assistance to DABS on CPs***

This work order supports USAID's first step transition in 2013 to 2014 to a transformational decade in 2015 to 2024 and beyond. A corner stone of this transformation is mutual accountability and conditional assistance as USAID transitions from off budget to on budget programs.

One such program is the Power Transmission Expansion and Connectivity (PTEC) Project. However, before USAID could fund PTEC on budget, the receiving organization Da Afghanistan Breshna Sherkat (DABS) had to satisfy twelve conditions precedent (CP) as described in USAID's Implementation Letter IL-22-2.

This Administrative Work Order is for Tt AESP to provide technical assistance to DABS in support of preparing the submission of conditions precedent for the initial disbursement of USAID on-budget funds under the PTEC Project. Notice to proceed was issued on July 15, 2013.

Implementation letter IL-22-2 was issued to DABS on January 9, 2013. IL-22-2 required DABS to satisfy twelve conditions precedent and ongoing commitments for the disbursement of funds. DABS' completed their initial CP submission by June 2013, but was not able to satisfy the USAID Office of Financial Management (OFM). In July 2013, USAID requested AESP to provide consultative assistance to DABS for the completion of eight of the twelve CPs. Later, AESP was issued Administrative Work WO-A-0092 to add three additional CPs to the work scope. The AESP scope of work includes:

- CP1 – Monitoring and Evaluation
- CP2 – Financial Statements
- CP3 – DABS Financial Management & Reporting
- CP4 – MoF Financial Management & Reporting
- CP5 – Asset Management
- CP6 – Audit
- CP7 – Procurement
- CP8 – Business Planning
- CP9 – Other Internal Systems, Commercial
- CP10 – Other Internal Systems, Information Technology
- CP11 – Other Internal Systems, Human Resources
- CP12 – Tarakhil Power Plant Operations and Maintenance

On December 8, 2013, the USAID Mission Director approved all twelve DABS conditions precedent as having been satisfactorily met. To quote the USAID Technical Point of Contact to Tt AESP:

“This clears the way for disbursements of funds under PTEC and Kajaki Unit 2 contracts. Thanks for your help in pushing these over the finish line. Although there is still significant work to be done in improving DABS financial and corporate management, this represents a major milestone.”

### **1.1.6 Progress**

The quarter's work order activity under this Task Order included work on 5 administrative work orders and 14 long-term work orders for a total of 19. Two energy scope of works are being considered by USAID – OEGI, Bagram Basin electrical load study and master plan and NEPS Kabul area distribution master plan. Two amendments to the NEPS system protective relay coordination study and one amendment for firefighting capacity study are pending.

The following is the breakdown of the number of work orders by sector:

Energy: 6 Long-term Work Orders

Transportation: 3 Long-term Work Orders

Vertical Structures: 2 Long-term Work Orders

Technical Support Services: 5 Administrative Work Orders; 3 Long-term Work Orders

The value of long-term work orders during the quarter was [REDACTED]. A complete listing of all the work orders issued under this Task Order from inception to current date can be found on the Work Order Status Table included in Appendix A.

At the close of the quarter, two energy long term work orders were being crafted, WO-LT-0076 Bagran Basin Electrical Load Study and Master Plan, and WOLT0078 NEPS Kabul Area Distribution Master Plan. In support of open energy work orders, the following amendments were under development for consideration; WOLT0048 Engineering Study for 220 kV Transmission Line, WO-LT-0059 NEPS System Protective Relay Coordination (two amendments) and WO-LT-0070 Tarakhil Power Plant Water Piping System.

## 2.0 CONTRACT/TASK ORDER

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The following paragraphs detail activities resulting from the Task Order and USAID OEGI directives to support the its mission in Afghanistan.

### 2.1 CONTRACT/TASK ORDER ACTIVITIES

No contract/task order modifications were issued or approved during the first quarter of 2014.

#### 2.1.1 Capacity Building

Tt AESP work order tasks have created opportunities for the LN staff to refine their technical skills in the areas of O&M calculations, site evaluations and assessments, and QA techniques. The shift of expatriate leadership to a supportive role was evident throughout the reporting period. The effort to build up the capacity of our LN staff will continue throughout Year Five.

Tt AESP during the year provided capacity building opportunities for LN engineering staff. Selected staff completed Project Management Professional (PMP) training on December 25, 2013. The training was held through the Professional Development Institute (PDI) of the American University of Afghanistan. The training focused on PMP exam preparation, fulfilling the educational requirement of the PMP exam and practical knowledge of project management. The training material was based on PMBOK 5th edition, the PMBOK 5th edition mainly focused on 47 project management processes each process has its own inputs, outputs, and tools and techniques the 47 process are divided into 10 knowledge areas and 5 groups. After completing of each knowledge area we had quizzes and at the end of the course we had final exam as well.

Management tools expertise are critical to the success of a program. Local National Deputy Chief of Party (DCOP) flew to Dubai for a 5 day training program. Managerial Skills for New Managers and Supervisors conducted by MIERC Training Company, covered and highlighted the following topics:

- Common Mistakes made by new managers and supervisors
- Teams and Leadership
- Effective Decision Making
- Mastering the Art of Motivation
- Delegation

DCOP presented an overview of the training to Tt AESP engineering and support staff. Overall, DCOP felt training was well worth the time, and will use training and insight into day to day program activities. At course completion certificate was presented to the DCOP for his participation and completion of training.

## 2.1.2 Gender Equality and Female Empowerment

Tt AESP performs to support the role of women as detailed in USAID’s “Transformational Decade” (2014-2024) program. Professional Afghan women hired to support the Tt AESP efforts continues. The first quarter of 2014 saw Tt AESP added three talent women to its work force. Two interns from Tt AESP’s own internship program were interviewed and hired. During the quarter, the Information Technology (IT) Manager resigned, with the promotion of our IT assistant a vacancy was created. Tt AESP filled the vacancy with a talented and determined female IT assistant.

Tt AESP will continue to support USAID’s Gender Equality and Female Empowerment directive through the remainder of the task order. A conscious effort to continue to challenge and elevate the female professional and support staff is a consorted effort by all expatriate and local national male staff.

## 2.1.3 Audit

USAID Financial Audit which began during the last quarter of FY 2013, continued through this quarter. Tt AESP produced records, explained procedures and demonstrated processes as requested by audit team. An exit meeting was held for the USAID Financial Audit on December 18, 2013 after approximately four months of working with the auditors. Final findings and report will be provided by USAID during the second quarter of year five.

## 2.1.4 Task Order Close-out

As year five began, Tt AESP planned and reviewed necessary staffing needs to support the work order effort and villa upkeep through the end of the task order, November 2014. As expatriate contracts end and demobilize, the required number service staff will reduce. To this end, during the quarter, service staff was reduced by thirty-six percent. Review of staffing will continue through the remainder of year five.

## 3.0 FINANCIAL

The approval of Modification 20 during the previous quarter funded the project to its completion of November 2014. The following information reveals the monthly expenditures and burn rate, actual and estimated. It is noted that the monthly expenditures are decreasing due to procurement and finance processes in place. Coupled with the reduction of expatriate staff, sound fiscal practices and processing will continue through the end of the project.

### 3.1 EXPENDITURES AND AVERAGE BURN RATE

Fiscal Year 2014 Quarter 1 expenditures and average burn rate is detailed in Table 2.

**Table 2. Expenditures and Average Burn Rate**

Tt AESP FY2013 Invoices Total:			
	October 2013	\$	
	November 2013	\$	
	Estimated December 2013	\$	
	Subtotal Q1 Expenditures	\$	
Cumulative Expenditures Through December 31, 2013		\$	
<i>Current Estimated Average Burn Rate per Month</i>		\$	

## 3.2 OBLIGATED FUNDS

Based on the current billing and projected burn rate, the [REDACTED] in Obligated Funding will be exhausted sometime in December 2014.

## 4.0 PROGRAM STAFFING

Expatriate staff positions continue to see a reduction, as more and more responsibility was transferred to trained LN engineering and professional staff. As expatriates staff demobilized, LN staff received advanced promotions with increased individual responsibility.

This quarter, two experienced and talented LN staff (Government Liaison Assistant and Accountant) received their Special Immigrant Visa and left the project. Tt AESP worked to fill both position with female LN. Tt AESP continues to monitor and evaluation the attrition of staff through the SIV program provided by the United States of America.

### 4.1 EXPATRIATE STAFFING SUMMARY

FY14 first quarter started with nine expatriates and finished out with eight. Search efforts continued during the first quarter to fill the Senior Energy Specialist position vacated during the FY13 third quarter. Table 3 Expatriate Staffing details the staffing activity through this quarter.

**Table 3. Expatriate Staffing Summary**

Position	Project Departure
Administrative Manager	N/A
Chief of Party	N/A
Contracts/Procurement Manager	N/A
Energy Lead	N/A
Finance Manager	N/A
Jr. Civil Engineer	N/A
Jr. Civil Engineer	December 2013
MIS Manager	N/A
Sr. Energy Specialist	Open
Technical Services Manager	N/A

Tt ASEP focuses on enlisting competent expatriate staff to carry out tasks as assigned by USAID OEGI. The following expatriate change occurred during the reporting period. Tt AESP Junior Civil Engineer returned to the home office to support the task order in a “Reachback” capacity. It was decided not to fill position based on close-out plan. No additional expatriate staffing changes occurred during the quarter.

### 4.2 LOCAL NATIONAL STAFFING SUMMARY

Local national staffing consists of support, service and professional staff. This quarter closed with 29 professional and support staff and 9 service staff. Staffing will continue to be monitored and evaluated through the remainder of this project to ensure that the expertise required to complete tasks is available. Table 4 Local National Staffing outlines the changes that occurred during this quarter.

**Table 4. Local National Staffing Summary**

Position	Project Departure	Project Arrival
Accountant	December 2013	N/A
Administrative Assistant	N/A	N/A
Architect	N/A	N/A
Buyer	N/A	N/A
Civil Engineer – Junior Level (2)	December 2013 (1)	December 2013 (1)
Civil Engineer – Mid Level	N/A	N/A
Cleaner-Grounds (2)	December 2013 (1)	N/A
Cleaner-Household (2)	December 2013 (1)	N/A
Contracts Assistant/Buyer	N/A	N/A
Cook(s) x 2	N/A	N/A
Cost Estimator – Senior	N/A	N/A
Deputy Chief of Party	N/A	N/A
Electrical Engineer-Junior (3)	N/A	N/A
Electrical Engineer-Mid	N/A	N/A
Electrical Engineer-Project	N/A	N/A
Electrical Engineer-Senior	N/A	N/A
Facilities Maintenance Technician	N/A	N/A
Facilities Manager	N/A	N/A
Female Searcher	December 2013	N/A
Government Liaison	November 2013	October 2013
Government Liaison Assistant	N/A	N/A
Human Resources Manager	N/A	N/A
Interns x 4	N/A	N/A
Internal Auditor	N/A	N/A
IT Assistant	October 2013 - Promotion	December 2013
IT Manager	October 2013	N/A
Kitchen Helper (2)	December 2013 (1)	December 2013 (1)
Laundry (2)	December 2013 (1)	December 2013 (1)
MIS Assistant	N/A	N/A
QA Monitor/USACC (2)	N/A	N/A
Site Engineer	N/A	November 2013
Technical Writer/GIS	N/A	N/A

## APPENDICES

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**APPENDIX A**  
**WORK ORDER SUMMARY REPORT**

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**FY 2014 Q1 WORK ORDER STATUS**

Afghanistan Engineering Support Program

IQC: Task Order 01 - EDH-I-00-08-00027-00

USAID Technical Office: USAID/Office of Economic Growth and Infrastructure (OEGI)

Work Order Number	Program Type	Description	Status	Estimated Cost (ROM)	In Country Cost to Date <sup>(5)</sup>	Reach Back Cost to Date <sup>(5)</sup>	Incurred Cost to Date <sup>(5)</sup>
<b>WO-A: Administrative Work Orders</b>							
WO-A-0091	TS	DABS Technical Assistance	Closed	N/A	█	█	█
WO-A-0092	TS	DABS CP Assistance_Task2	Closed	N/A	█	█	█
WO-A-0093	TS	Technical Assistance to US Embassy PP	Closed	N/A	█	█	█
WO-A-0094	TS	Salang Tunnel Exhibit Support	Closed	█	█	█	█
<b>WO-LT: Long Term Work Orders</b>							
WO-LT-0006 AMD 5	MULTI	SKGHS Construction Administrative Services	Closed	█	█	█	█
WO-LT-0009 AMD 5	VS	PRT Field Support	Open	█	█	█	█
WO-LT-0009 AMD 6		RC North Project Evaluations	Open	█	█	█	█
WO-LT-0009 AMD 6		RC East Project Evaluations	Open	█	█	█	█
WO-LT-0042	TS	Afghan Women Internship Program	Open	█	█	█	█
WO-LT-0048 AMD 3	E	Engineering Study for 220kV Transmission Line Transmission Line and Substations from Arghandi to Ghazni	Open	█	█	█	█
WO-LT-0048 AMD 4		Qarabagh to Kandahar East Substations	Open	/	/	/	/
WO-LT-0059 AMD 1	E	NEPS System Protective Relay Coordination Studies NEPS Distribution Materials and Installation Specification Development	Open	█	█	█	█
WO-LT-0059 AMD 1			Open	█	█	█	█
WO-LT-0063 AMD 3	E	Salang Tunnel Substation	Open	█	█	█	█
WO-LT-0063 AMD 4		Salang Tunnel SS Technical Sections	Open	/	/	/	/
WO-LT-0063 AMD 5		Salang Tunnel SS Pre-purchase Specs	Open	█	█	█	█
WO-LT-0063 AMD 6		Salang Tunnel SS Survey and Geotech	Open	█	█	█	█
WO-LT-0063 AMD 6		Salang Tunnel SS Detailed Design	Open	█	█	█	█
WO-LT-0064	E	Ghawchak to Rodat T/L and SS Technical Sections	Open	█	█	█	█
WO-LT-0065	TS	Media Assistance	Open	█	█	█	█
WO-LT-0066	TS	Training and Support	Open	█	█	█	█
WO-LT-0067	T	GK Road Value Engineering	Open	█	█	█	█
WO-LT-0070	E	Tarakhil Power Plant Water Piping System	Open	█	█	█	█
WO-LT-0072	E	Power System Analysis of Proposed NEPS Improvements	Open	█	█	█	█
WO-LT-0077	T	Gardez-Khost-Bridge 9	Open	█	█	█	█
<b>Pending Work Orders</b>							
WO-LT-0048 AMD 5	E	Transmission Lines from Ghanzi to Kandahar East	Pending	\$0	\$0	\$0	\$0
WO-LT-0059 AMD 2	E	NEPS Distribution Materials and Installation Specification Development final 61 MV	Pending	\$0	\$0	\$0	\$0
WO-LT-0059 AMD 3	E	NEPS Kabul Area Substation Assessments	Pending	\$0	\$0	\$0	\$0
WO-LT-0070 AMD 2	E	Firefighting Analysis	Pending	\$0	\$0	\$0	\$0
WO-LT-0076	E	Bagram Basin Electrical Load Study and Master Plan	Pending	\$0	\$0	\$0	\$0
WO-LT-0078	E	NEPS Kabul Area Distribution Master Plan	Pending	\$0	\$0	\$0	\$0

Energy  
Water Resources  
Vertical Structures  
Transportation  
Water and Sanitation  
Multi-Disciplinary  
Technical Support



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